

ABSTRACT OF THE DISCLOSURE

The invention provides a surface acoustic wave device capable of precisely controlling a frequency, of reducing changes in the center frequency with the lapse of time after controlling the frequency, and of performing a stable operation for a long time. The thickness of an IDT electrode formed on a quartz substrate is set to be slightly larger than the desired thickness so that the center frequency is slightly lower than the desired frequency. Next, a voltage is applied to the IDT electrode and the center frequency is measured. At this time, the measured center frequency is slightly lower than the desired frequency. The rear surface of the quartz substrate is etched while checking the measured center frequency. As a result, the measured center frequency gradually increases and approaches the desired frequency by etching the rear surface of the quartz substrate. Further, the rear surface of the quartz substrate is continuously etched until the center frequency is the desired frequency. The etching is stopped at the point of time where the measured center frequency is the desired frequency.